



PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BChydro 



A Reconnaissance Survey Of Clearwater Lake

A. R. McLean
1991

PFWWCP Report No. 103

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

**Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave.
3rd Floor, Prince George B.C. V2L 3H9**

Website: www.bchydro.bc.ca/environment/initiatives/pwcp/

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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Prince George, B.C. V2L 3H9

A RECONNAISSANCE SURVEY OF
CLEARWATER LAKE

WATERSHED: Peace River
DATE OF SURVEY: September 7. 8. 1991
FIELD CREW LEADER: A.R. McLean
FIELD ASSISTANT: A.R. Langston

WILLISTON/PEACE FISHERIES
COMPENSATION PROGRAM

B. C. HYDRO

ENVIRONMENTAL RESOURCES

and

B.C. ENVIRONMENT

RECREATIONAL FISHERIES BRANCH

REPORT PREPARED BY: A.R. McLean
REPORT EDITED BY: A.R. Langston
RELEASED BY: Ted Down
Ted Down, Regional Fisheries Biologist

LAKE: CLEARWATER

SYSTEM NAME: unnamed c.

A.S.A.P. REFERENCE NO.:

SYSTEM NO: 230-8708

DATA ON FILE FOR THIS SURVEY

Location	x	Dissolved O2/Temp. Profiles	x
Physical Data	x	Winter Dissolved O2/Temp. Profiles	x
Bench Mark	x	Netting Record	x
Terrain Features	x	Lake Catch Summary	x
Access	x	Individual Fish Data	x
Resorts and Campsites	x	Fish Preserved	x
Other Developments	x	Stomach Analysis	x
Obstructions and Pollutions	x	Scale Reading	x
Special Restrictions	x	Location of Inventory Sites	x
Aquatic Plants	x	Photograph Directory	x
Wildlife Observations	x	Appendices:	
Miscellaneous Comments	x	A: Water Chemistry Analysis	x
Lake Drainage	x	B: Tributary Stream Data	--
Fisheries Management Comments	x	Bathymetric Map Reduction	x
History of Previous Surveys	x	Bathymetric Map	x
Water Chemistry Summary	x		

Location: 35 km northeast of Mackenzie or 79 km West of Chetwynd.
 Elevation: 1016 m +/-
 Latitude/Longitude: 55°36'40":122°52'48" U.T.M.: 10.5076.61626
 Management Unit: 7-31 NT.S. Map No.: 93-0/10

Drainage: Unnamed C. --> Clearwater C. --> Williston Reservoir
(Peace Reach) --> Peace River

PHYSICAL DATA

Lake Drainage Area:	- km ²	Volume:	347000 m ³
Water Surface Area:	181000 m ²	Flushing Rate:	
Area above 6 m contour:	181000 m ²	Perimeter of Islands:	— m
Shoreline Perimeter:	1800 m	Number of Islands:	0
Maximum Depth:	3.5 m	Mean Depth:	1.9 m
Filterable Residue (TDS):	100 mg/l	Secchi Reading:	2.1 m

Sounding Device: Lowrance X-15

Elevation Source: Contour interpolation

BENCHMARK

(Iron spike, center of red circle) located at the south end of the lake, approximately 3.0 m from water's edge in a 30 cm diameter Alpine fir tree. Bench mark set 2.0 m above current water level.

High water mark: lake appears to be at maximum pondage.

Lake: Clearwater

TERRAIN FEATURES

Immediate Shoreline:

The terrain immediately surrounding the lake has a low to moderate slope, with the exception of the steeply sloped south shore. Clearwater Lake is treed to water's edge along the west and south sides. The trees on the west shore are predominately white spruce (90%), with a 10% mixture of alpine fir concentrated on the south shore. Evidence of a forest fire is apparent on and beyond the north and east sides, with numerous dead standing trees along the shorelines. The forest is in a fire succession stage, consisting of bog willow, white spruce, alpine fir, fireweed, tall blueberry and Hudson Bay current. Marshes, consisting of mats of sedgegrass extending in the lake, are present along the north and west shores. A fringe of sedgegrass (avg. 8 m, range 1-30 m) fronts the entire shoreline. Boating access to and from shore is poor, except for the lake's southeast edge (near trail access). Shoreline substrate is organics, with the exception of the gravel/cobble substrate found in the outlet area. Lake bottom drops off gradually from shore.

Surrounding Country:

Clearwater Lake is located in the Hart Ranges of the Rocky Mountains, with the Misinchinka Ranges visible to the south and west. The forest stands which escaped the most recent fire are mature and consist of 90% spruce, 10% alpine fir. The forest fire affect is visible in all directions. The lake is surrounded by gently sloping terrain, with the exception of the steeply sloped south and west hillsides.

Clearwater Lake is located within the sub-boreal spruce biogeoclimatic zone.

Lake: **Clearwater**

ACCESS

Directions:

At present, ground access is restricted to an old logging road which parallels Callazon Creek. A trail leading from the logging road accesses the lake on the south shore.

Alternately, access is via a 20 minute helicopter flight from Silver Sands Lodge, which is located approximately 31 km north of Azouzetta Lake on Highway 97.

Road Type and Conditions:

The old logging road is washed out in many places and therefore passible only to all terrain vehicles, motorbikes, horses, etc.

Restrictions:

None noted.

RESORTS AND CAMPSITES

A rough campsite exists on the northeast shore.

OTHER DEVELOPMENTS

None noted.

Lake: Clearwater

OBSTRUCTIONS AND POLLUTIONS

Aerial observations indicated what appears to be a barrier to fish passage in the form of a beaver dam, located 500 m upstream of the lake on inlet #1. A beaver dam located at water's edge, and the dams located 30 m and 75 m upstream of the lake on inlet #2 appear to be barriers to upstream fish passage. A beaver dam (75 m in length by 1.3 m in height) located at the lake outlet, and two more dams located 100 m and 120 m downstream from the lake appear to be barriers to upstream fish migration.

SPECIAL RESTRICTIONS

None noted.

AQUATIC PLANTS

Ceratophyllum sp. and Equisetum fluviatile were found sparsely populating the lake's edge. Sedgegrass was found in relatively high densities around Clearwater Lake. No samples were collected.

WILDLIFE OBSERVATIONS

1 osprey	2 cow moose
gray jays	1 calf moose
chipmunks	1 frog
unidentified species of waterfowl	squirrels

Lake: Clearwater

MISCELLANEOUS COMMENTS

Two people angling for 1.5 hours produced 4 bull trout.

Approximately 6 pairs of bull trout (in spawning colours) were noted near cleared patches of exposed gravel and cobble at outlet area just upstream of first beaver dam. No redds were observed. Water temperature was 13°C at this location and no flow was present. One bull trout in spawning colours was also noted just downstream of the first beaver dam on inlet #2.

Bathymetric map: The lake outline is from the enlargement of airphoto B.C. 7191 No. 278, flown June 1969.

Lake: **Clearwater**

LAKE DRAINAGE

General:

Clearwater Lake has four inlets (2 permanent, 2 seasonal) and one outlet. The outlet flows approximately 150 m to Clearwater Creek. Clearwater Creek flows north northwest approximately 38.4 km to its confluence with Williston Reservoir (Peace Reach).

Major Systems:

Clearwater C.

Clearwater C. is a major tributary to Williston Reservoir (Peace Reach). No barriers to upstream fish passage are present on this creek (Pers. Comm. B.G. Blackman, Fisheries, BC Environment, Prince George). Clearwater Lake is not the headwaters of Clearwater Creek.

Minor Systems:

Unnamed C. - outlet

The entire length (150 m) of the outlet was investigated. Lake level is controlled by an active beaver dam (approx. 75 m in length by 1.3 m in height) located at the outlet (approx. 350 m downstream of main lake body). A second active beaver dam (35 m in length by 1.3 m in height) is located 30 m downstream from the first beaver dam. Its resulting pond is approx. 30 m in length by 35 m in width. Three additional active beaver dams occur on this outlet, the last of which (located 120 m downstream from the first beaver dam) is partially breached (right bank) with resulting seepage entering Clearwater Creek. The first 120 m of the outlet has a complete organic substrate, offering no salmonid spawning habitat. The remaining 30 m of the outlet has marginal spawning and good salmonid rearing capabilities (undercut banks, overhanging/instream vegetation). Good salmonid spawning rearing was noted in Clearwater Creek, approx. 155m downstream from the lake.

Lake: Clearwater

Unnamed C. - inlet #1

This inlet enters the lake on the north shore. No noticeable current was present in the first 300 m investigated. Aerial observations indicated no flow downstream of a beaver dam located approx. 500 m upstream from the lake. With an average depth of 1.5 m, and a complete organic substrate, this inlet offers no salmonid spawning, but good rearing capabilities.

Unnamed C. - inlet #2

This inlet enters the lake along the west shore. An active beaver dam (75 m in length by 0.6 m in height) is located at lake's edge. The resulting pond is 75 m in length by 30 m in width. A second overgrown dam is located 30 m from the first beaver dam. The bottom of this dam has been blown out and its length is 4.0 m. A third active dam (3.5 m in length by 0.6 m in height) is located 30 m from lake's edge. Its pond is 2.5 m in width, 45 m in length, and 0.6 m in depth. A fourth dam (approx. 100 m in length by 0.6 m in height) is located 75 m from lakes edge. The resulting pond is 100 m in length, 75 m in width, and 0.35 m in depth. Of the 1 50 m investigated, this low gradient inlet had a complete organic substrate offering no fisheries potential.

Unnamed Creeks - seasonal inlets

Two seasonal inlets enter the lake on the west shore. These inlets drain low lying marsh area and have no fisheries potential.

Lake: **Clearwater**

FISHERIES MANAGEMENT COMMENTS

Clearwater Lake supports a population of bull trout. An overnight net set produced 26 bull trout with an average length of 38.5 cm and average weight of 663 grams. Two minnow traps (overnight set) yielded no fish. Angling catch per unit effort was 1.3 bull trout/hour. The inlets investigated afford no spawning habitat (organic substrate) as a result of beaver activity. The lake level (max. depth 3.5 m) is controlled by a beaver dam (1.3 m in height) located at the outlet. The outlet consists of four additional beaver dams spread over the 150 m distance to Clearwater Creek. Three of these dams (#1, 4, 5) are presently barriers to upstream fish passage, however passage may be possible during years of high water and/or if the dams are breached. The outlet affords no spawning habitat, except for the last 30 m. A winterkill situation is possible, should the first dam be breached. Oxygen samples taken during the winter of 1990-91 indicated low oxygen levels for overwintering fish, suggesting the possibility of an underwater spring. Bull trout were observed near cleared patches of gravel and cobble just upstream of the first beaver dam in the outlet area. No redds were noted. No juvenile bull trout were captured, further supporting the theory of little or no reproductive capabilities in this lake.

Beaver dam removal on the outlet could be considered. This would perhaps restore "historic" bull trout movement between the lake and the river. As this appears to be an isolated monoculture bull trout population with little or no recruitment, protection of this possibly unique stock, through regulation changes or restriction of further access development, should be considered.

HISTORY OF PREVIOUS SURVEYS

Lake Surveys:

A winter oxygen/temperature series was collected on March 18, 1991 by A.R. McLean, Williston/Peace Fisheries Compensation Program, Prince George.

Other Related Surveys:

Blackman, B.G., 1989. Biophysical Reconnaissance of Clearwater Creek. Williston/Peace Fisheries Compensation Program. Unpublished data sheets.

Lake: Clearwater

WATER CHEMISTRY SUMMARY

Limnology Station No. 1

Field Conditions:

Date:	Sept. 8, 1991		
Time:	1250 hrs	Air Temperature:	12.5 °C
Wind Velocity:	nil km/hr	Wind Direction:	N/A
Cloud Cover:	1/10 o.c.	Surface Condition:	calm
Secchi Disc:	2.1 m	Water Colour:	tannic yellow/brown

Method(s) Used:

Dissolved Oxygen:	YSI model 58 oxygen/temperature meter
Water Temperature:	YSI model 58 oxygen/temperature meter
Air Temperature:	Hand-held alcohol thermometer
pH (field):	Hach pH field test kit
H ₂ S (field):	Hach H ₂ S field test kit
Laboratory Used:	Zenon Environmental Inc. B.C. Laboratory Services
Water Sampler:	Verticle Alpha Water Bottle (Vandorn)
Substrate Sampler:	Substrate sample not taken

Water Sample Chemistry:

SEAM Site No.: Not determined.

	<u>Sampling Depths</u>	
	<u>Surface (0 m)</u>	<u>Lower (2.5 m)</u>
pH (field)	7.6	7.7
pH (lab)	7.8	7.8
Specific Conductance (lab)	138 umhos/cm	137 umhos/cm
Filterable Residue 105°C (lab)	100 mg/l	100 mg/l
H ₂ S (field)	mg/l	0 mg/l
Bottom Depth:	3.5 m	
Substrate Sample Depth:	m	

Note: No hydrogen sulphide odour detected.

Lake: Clearwater

DATE: September 8, 1991

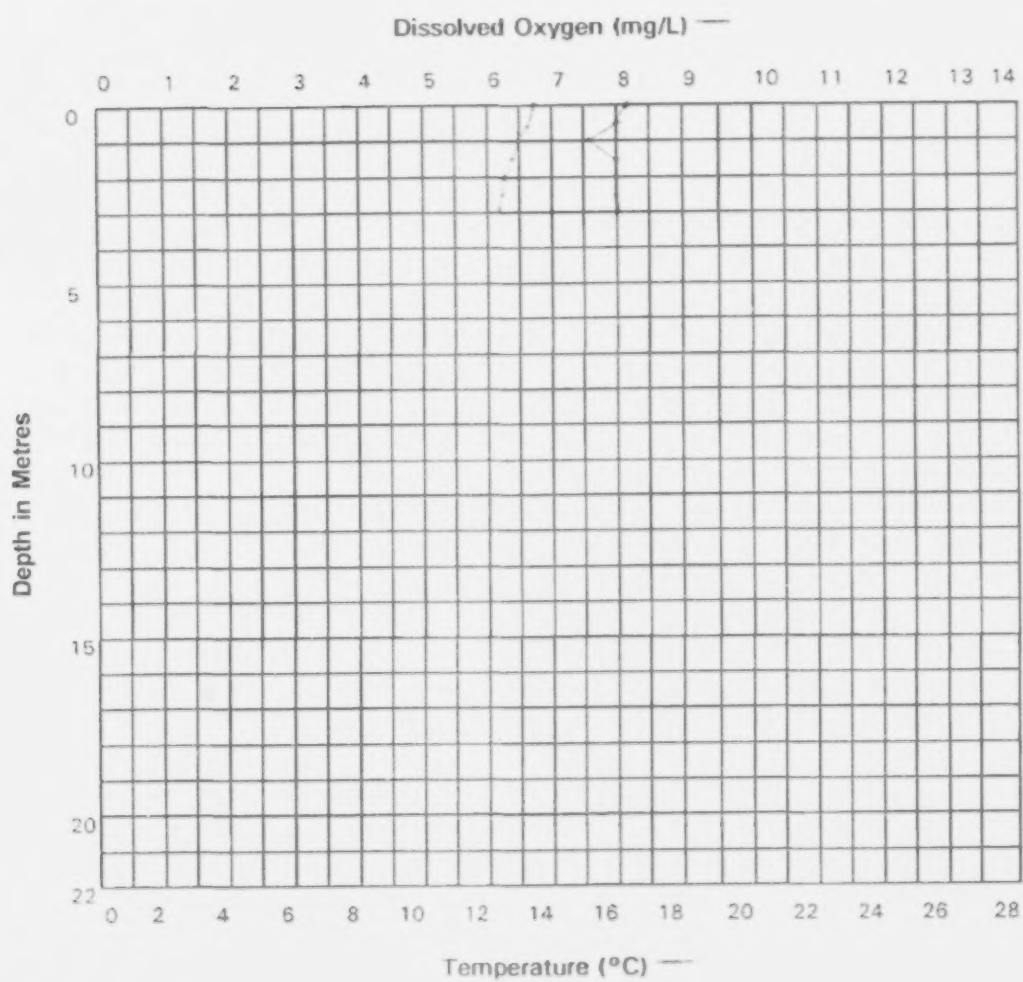
SUMMER OXYGEN/TEMPERATURE DATA

DEPTH (m)	O2 (mg/l)	TEMP (°C)
Surface	8.1	13.5
0.5	8.0	13.2
1.0	7.6	13.0
1.5	8.0	12.8
2.0	8.0	12.7
2.5	8.0	12.6
3.0	8.0	12.5
3.5	Bottom	

Lake: Clearwater

SUMMER

DISSOLVED OXYGEN AND TEMPERATURE SERIES



Lake: Clearwater

DATE: March 18, 1991
Time: 1230 hrs
Air temp.: 7 °C
Wind: moderate

CREW: A.R. McLean
Snow depth: 25 cm
Ice Depth: 78 cm
Weather: clear/sun

WINTER OXYGEN/TEMPERATURE DATA

DEPTH (m)	O2 (mg/l)	TEMP (°C)
Surface *	--	--
0.5	--	--
1.0	5.9	2.2
1.5	1.1	2.1
2.0	1.3	2.9
2.5	1.4	3.9
3.0	1.3	4.6
3.5	1.2	5.3
3.8	Bottom	

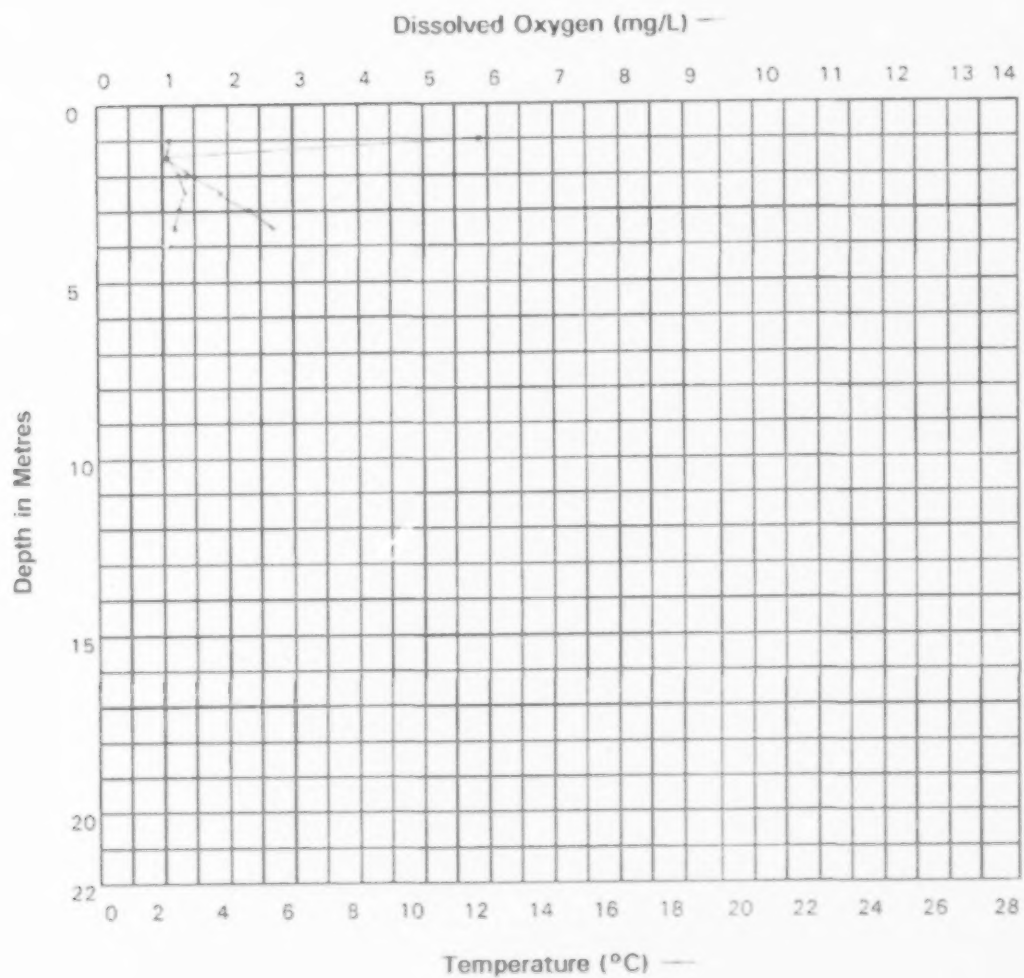
* Eight attempts were made to locate the deepest area.

* Surface if referenced from top of ice,
ie. surface = top of ice.

Lake: Clearwater

WINTER

DISSOLVED OXYGEN AND TEMPERATURE SERIES



Lake: Clearwater

NETTING RECORD

Mesh sizes experimental order: 25, 76, 51, 89, 38, 64 mm

NETTING SITE #1

Type:	Sinking monofilament		
Date Set:	September 7, 1991	Time:	1740 hrs
Date Lifted:	September 8, 1991	Time:	1000 hrs
Net Dimensions:	Length: 91.4 m	Depth:	2.4 m
Shallow End Mesh Size:	25 mm	Depth:	1.5 m
		Substrate:	organics
Deep End Mesh Size:	64 mm	Depth:	3.5 m
		Substrate:	organics

Comments:

Bull trout captured throughout the net panels.

Lake: Clearwater

LAKE CATCH SUMMARY

SPECIES	NET SITE NO.				ANGLED	OTHER	TOTAL	NUMBER SAMPLED	NUMBER PRESERVED	SIZE RANGE (cm)
	1	2	3	4						
bull trout	26	-	-	-	4	-	30	30	-	26.5 - 48.5

Minnow Traps:

BAIT: Sardines

#	HOURS	DEPTH (m)	SUBSTRATE	SPECIES	SIZE RANGE (cm)
1	18.30	0.7	organics	nil	--
2	18.10	1.8	organics	1 beetle	--

Lake: **CLEARWATER**

INDIVIDUAL FISH DATA

Date Captured: SEPTEMBER 8, 1991

M - Male IMM - Immature EG - Egg SC - Scale
 F - Female MG - Maturing FR - Fin Ray ST - Stomach
 ? - Not MT - Mature HD - Head TG - Fish Tag
 Obvious GV - Gravid ML - Milt WF - Whole Fish
 SP - Spent OT - Otolith
 ? - Not Obvious

Method of Capture: Sinking monofilament gillnet

SPECIES	Fork Length (cm)	Weight (grams)	Sex	Conadal Maturity	Sample Type	Age (yr)	Plankton	Stomach Contents			COMMENTS
								Insects	fish	Other	
bull trout	26.5	200	F	IMM	OT	4				shrimp	
bull trout	27.9	255	F	IMM	OT	6				leeches shrimp	
bull trout	30.0	315	F	IMM	OT	4		dragon fly nymphs		shrimp	
bull trout	31.2	345	M	IMM	OT	4				shrimp	
bull trout	31.8	360	M	IMM	OT	4				shrimp	
bull trout	34.5	450	F	IMM	OT	?				shrimp	age not available
bull trout	35.7	545	M	IMM	OT	7				leeches shrimp	
bull trout	35.8	535	M	IMM	OT	6				shrimp	
bull trout	36.0	560	M	IMM	OT	5				shrimp	
bull trout	36.1	575	M	IMM	OT	6		dragon fly nymph		shrimp	
bull trout	37.1	590	M	IMM	OT	?				shrimp	age not available
bull trout	37.5	695	F	IMM	OT	5				2 leeches shrimp	
bull trout	38.0	655	M	IMM	OT	5		dragon fly nymphs		shrimp	
bull trout	38.5	655	M	IMM	OT	6				leeches shrimp	
bull trout	38.8	645	M	GV	FR	5					
bull trout	38.9	595	M	IMM	OT	8				leech shrimp	
bull trout	39.8	805	M	IMM	OT	7		dragon fly nymphs		shrimp	
bull trout	40.3	690	F	GV	OT	7		dragon fly nymphs			
bull trout	40.4	820	F	MG	OT	6		dragon fly nymphs			
bull trout	41.1	745	F	GV	OT	7					eggs resorbing
bull trout	42.2	810	M	GV	OT	8					
bull trout	42.8	900	F	GV	OT	7					
bull trout	44.6	960	-	-	FR	6					
bull trout	45.9	960	F	GV	OT	?					age not available
bull trout	47.5	1,100	M	MT	OT	8				shrimp	
bull trout	48.5	1,100	F	GV	OT	6					

BULL TROUT AGE DETERMINATION COMPLETED BY:

North/South Consultants
 1475 Chevrier Blvd., 2nd Floor
 Winnipeg, Manitoba, R3T 1Y7

Lake: **CLEARWATER**

INDIVIDUAL FISH DATA

Date Captured: SEPTEMBER 7, 1991

Method of Capture: **ANGLED**

M - Male IMM - Immature EG - Egg SC - Scale
 F - Female MG - Maturing FR - Fin Ray ST - Stomach
 ? - Not MT - Mature HD - Head TG - Fish Tag
 Obvious GV - Gravid ML - Milt WF - Whole Fish
 SP - Spent OT - Otolith
 ? - Not Obvious

SPECIES	Fork Length (cm)	Weight (grams)	Sex	Gonadal Maturity	Sample Type	Age (yr)	Plankton	Stomach Contents			COMMENTS
								Insects	Fish	Other	
bull trout	35.5	500	-	-	FR	3					
bull trout	38.5	675	-	-	FR	?					age not available
bull trout	46.0	850	F	GV	FR	6					
bull trout	47.1	1,000	F	MT	FR	5					

BULL TROUT AGE DETERMINATION COMPLETED BY:

**North/South Consultants
 1475 Chevrier Blvd., 2nd Floor
 Winnipeg, Manitoba, R3T 1Y7**



Plate number, area, and direction Point sample, number, and location Bench mark Limno station location and number Netting site location and number Stream flow direction and number	LOCATION OF INVENTORY SITES Figure 1 Lake: Clearwater Reference No.: B.C. 7191:278 Reference Date: June, 1969 Scale 1:3355
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Lake: Clearwater

PHOTOGRAPH DIRECTORY

<u>Negative #</u>	<u>Plate #</u>	<u>Description</u>
R104:16	1	Aerial view looking north at Clearwater Lake and outlet. Arrow indicates location of Clearwater Creek.
R105:19A,20A	2	Panoramic view looking northeast towards outlet, from limno station.
R105:14A	3 *	View of beaver dam at lake outlet, taken from lake. This dam (75 m in length, 1.3 m in height) controls current lake level and is an obstruction to upstream fish passage.
R105:5A	4 *	View looking upstream at typical overgrown, active beaver dam on outlet.
R105:2A	5 *	View looking upstream at confluence of outlet C. (on right) and Clearwater C.
R105:13A	6 *	Bull trout (in spawning colours) observed near cleared patches of exposed gravel/cobble at outlet area, just upstream of the first beaver dam.
R105:18A	7	View looking downstream at first beaver dam on inlet #2, located at water's edge. This dam appears to be an obstruction to upstream fish passage.
R105:18A	8	View looking upstream at beaver dam #3, located 30 m from lake's edge on inlet #2. Note: flow is exaggerated due to experimental breaching of a beaver dam located upstream.

* Not shown on air photo.

Lake: **CLEARWATER**



Plate 1:

Aerial view looking north at Clearwater Lake and outlet. Arrow indicates location of Clearwater Creek.

Lake: **CLEARWATER**

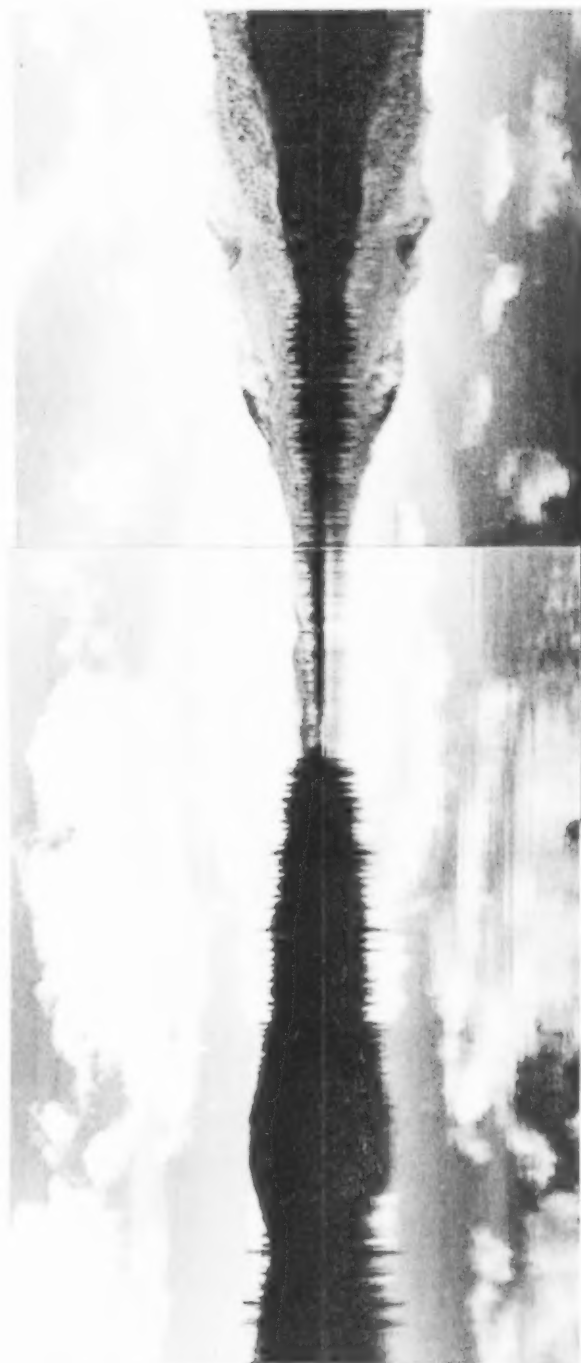


Plate 2: Panoramic view looking northwest towards outlet, from limno station.

Lake: **CLEARWATER**



Plate 3: View of beaver dam at lake outlet, taken from lake. This dam (75 m in length, 1.3 m in height) controls current lake level and is an obstruction to upstream fish passage.



Plate 4: View looking upstream at typical overgrown, active beaver dam on outlet.

Lake: **CLEARWATER**



Plate 5: View looking upstream at confluence of outlet C. (on right) and Clearwater C.



Plate 6: Bull trout (in spawning colours) observed near cleared patches of exposed gravel/cobble at outlet area, just upstream of the first beaver dam.

Lake: **CLEARWATER**



Plate 7: View looking downstream at first beaver dam on inlet #2, located at water's edge. This dam appears to be an obstruction to upstream fish passage.



Plate 8: View looking upstream at beaver dam #3, located 30 m from lake's edge on inlet #2. Note: flow is exaggerated due to experimental breaching of a beaver dam located upstream.

Lake: Clearwater

Appendix A

LABORATORY REPORT

Water Chemistry Analysis

03-Oct-91

FLEMON ENVIRONMENTAL INC
B.C. LABORATORY SERVICES
Report for form 1000401a

Page 1

FISH - PRINCE GEORGE

ATTN: ALLISTER McLEAN

Site: NOSITE CLEARWATER LAKE

Submitted by (23286) BLACKMAN B

Address (07) Waste Management Branch
Northern Region
3rd Floor, 1011 4th Avenue
Prince George, BC V2L 3H9

Phone No 565-6944

Audit Sample ()
Client study reference code ()
Sampling agency code (91)

Site (NOSITE) CLEARWATER LAKE

Sample Adjective ()
Sample State (FW) Fresh Water
Sample Descriptor (GE) General

This form was processed to the computer on 10-SEP-1991 as REGULAR
The cost for analyzing samples for this form is

Routine analysis:	\$	116.84
Special analysis:	\$	0.00
Total	\$	116.84

Td : 91/09/06, 0001

Tide

Sample State: Fresh Water

Sample	Comment
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FISH - PRINCE GEORGE

ATTN: ALLISTER McLEAN

Sample 91017415

Site: NOSITE CLEARWATER LAKE

From 91/09/08 0002

To 91/09/08 0002

Depth Range 2.5 2.5

Tide

Sample State: Fresh Water

Sample Comment:

Parameter Description	Result	Units	Analytical Technique (Sparcode/Medium/Pres'n)
pH	7.8	pH units	Automated pH Meter (00041220/02/01)
Residue Nonfilt	3	mg/L	Grav. 9 cm Buchner, 105C (00081070/02/01)
Specific Conductance	137	uS/cm	Cond. Meter Siebold (00111160/02/01)
Res. Filterable 1.0u	100	mg/L	Gravimetric 1.0u Filter (007H1032/02/01)
Alkalinity Total 4.5	69.8	mg/L	Automated Electrometer (01021210/02/01)



INSET MAP
Scale 1:62,500



SURVEYED BY A. R. MILLER	DATE SEPT 7, 1969
OUTLINE SOURCE AIRPHOTO BC FIS (JUNE 1969)	
STATISTICS AT TIME OF SURVEY	
ELEVATION	1006 m t
SURFACE AREA	48 000 sq m
AREA ABOVE 6m CONTOUR	48 000 sq m
VOLUME	54700 cu m
MEAN DEPTH	1.9 m
MAX DEPTH	3.5 m
PERIMETER MAIN SHORE	1800 m
PERIMETER ISLANDS	m
MEAN MAIN HEIGHT	m
ABOVE WATER LEVEL	2.0 m

NO. 108 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Project of
British Columbia
Ministry of
Fisheries
Fisheries Branch
Inventory Operations

CLEARWATER LAKE

DEPTHS IN METERS

WATERMETER CODE	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
WATERMETER CODE	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
WATERMETER CODE	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643																																																																																																																																																																																																																																																																																																																																																																					